AMSAT News Service Weekly Bulletins
Issue: ANS-309
Date: 2006-11-05
Sources: amsat-ans-2006-ans-309-weekly.txt

AMSAT NEWS SERVICE
ANS-309

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

In this edition:
* ARISS Contingency Network Activated
* OSCAR-11 REPORT
* AMSAT Donation Opportunity for Federal Employees
* SK - Reihard Richter, DJ1KM
* Satellite DX Opportunities
* National Science Foundation Plans Webcast of Mercury Transit
* ARISS Status - 30 October 2006

SB SAT @ AMSAT $ANS-309.01
ARISS Contingency Network Activated

AMSAT News Service Bulletin 309.01
  From AMSAT HQ SILVER SPRING, MD.
November 5, 2006
To All RADIO AMATEURS
BID: $ANS-309.01

October 30, 2006

On Thursday, October 26, NASA Johnson Space Center asked that the ARISS Ops Team enable its ISS Ham Contingency Network and go into standby mode as a resource for NASA. ARISS volunteers immediately swung into action.

Russian Flight Controllers were experiencing difficulties completing the docking of a Russian Progress cargo vehicle. Its antenna would not retract properly as it neared the ISS. It is a requirement for the antenna to be retracted before the last step of the physical docking is executed to avoid a collision between the antenna and the docking port.
  The ISS was put into a free-drifting mode, which aids the crew with docking maneuvers. Free-drifting results in the ISS solar arrays not being pointed directly toward the sun. This causes decreased power generation for the ISS, and the crew is required to slow down or shut down some ISS systems to conserve power.

During free-drift mode, a loss of TDRSS (Tracking and Data Relay Satellite System) coverage can occur; TDRSS is the system that handles communications between astronauts and Mission Control (MCC) in Houston.
  The ARISS Team was asked to ready its ISS Ham Contingency Network so that MCC could feel secure in having solid communication coverage while their staff took care of the docking issue.

The docking problem was solved, and the ARISS contingency network wasn't used by NASA for actual communications. NASA's request and the ensuing ham activity served as a great drill for the ARISS Team. MCC (Houston)

was impressed with how quickly the ARISS Team had its system up and running. The MCC staff's concern about the possible TDRSS problem was lessened, knowing of the hams' ability to act as a back-up resource in the case that it is ever needed.

Kenneth Ransom, N5VHO, generated a procedure for the ISS crew on the operations of the ARISS contingency network. The fact that the ARISS Team was asked to be on standby was known by anyone listening to the NASA communications channel. MCC Houston transmitted a message to the crew that information would be uplinked about the ham network and the procedure for it if they needed to invoke it.

It was the first time in the six-year history of ARISS that NASA had asked the hams to bring up the contingency network. Within 15 minutes of receiving the call from NASA, ARISS Ops Team member Kenneth Ransom, N5VHO, reported the ARISS Ops Team ready to communicate. ARISS Team member Tony Hutchinson, VK5ZAI, of Australia, was awakened at 2 AM, and got on-line to make a blind call up to the crew, although they did not need to answer at that point.

Within the 3.5 hours from the time the initial phone call came, until the team got word to shut down, Tony Hutchison, VK5ZAI, was as his mike, and these additional stations were on standby to cover later passes: Gerald Klatzko, ZS6BTD, in South Africa; Gaston Bertels, ON4WF, at the Belgian ON4ISS station; Dick Flagg, AH6NM, and Nancy Rochelau, WH6PN, at Sacred Hearts Academy in Honolulu, Hawaii; and Frank Bauer, KA3HDO, and Mark Steiner, K3MS, at the Goddard Space Flight Center ham station, WA3NAN. The ARISS teamwork was very effective; its members learned a great deal, and they impressed NASA with how quickly the system was brought up.

[ANS thanks Rosalie, K1STO,
ARISS Secretary-Treasurer for the above information]

/EX

SB SAT @ AMSAT $ANS-309.02
OSCAR-11 REPORT

AMSAT News Service Bulletin 309.02
From AMSAT HQ SILVER SPRING, MD.
November 5, 2006
To All RADIO AMATEURS
BID: $ANS-309.02

31 October 2006

OSCAR-11 is back! It was first heard by Peter ZL3TC, at 06:23 UTC on October 18. It had been silent since August 26.

During the period 28 September to 30 October, the satellite was heard from 18 to 28 October. Good signals have been heard on most passes, often very strong.

Further deterioration of the time/date stamp has occurred. Here is a frame of telemetry captured on 27 October at 08:43:51 UTC.

UOSAT-2 060=601033448

[Inline base64-encoded payload not displayed]

The date/time stamp is the block of characters following 'UOSAT-2' having the format YYMMDDWHHMMSS (Year, month, day, day of week, hours, minutes, seconds).

The month, shown as '0=' in the date stamp is now in all telemetry frames. When the satellite was heard in August the month, had stuck at 07 and the day had incremented to 60. During the ten day reception period in October, the day had correctly incremented from 51 to 60. While the satellite was silent, it appears likely that the day may have incremented to 99 and then reset to zero. It will be interesting verify this theory on future passes.

During the last ten days of beacon transmission the time stamp incremented accurately, and no gain or loss was detected (within one or two seconds). However, on one occasion, the most significant digit of the hours failed to change from zero to one, although it didn't cause a permanent error.

If the satellite continues to operate normally, the beacon should switch ON around 07 November. If nothing is heard, it may be worth listening ten days later, ie. around 17 November.

I am indebted Peter ZL3TC, Bob G4VRC, Paul KB5M, and Doug KA2UPW/5 for their reports and for monitoring the satellite. Peter listened for the satellite daily, often during several passes, while it was silent. Many thanks.

The status of the satellite, when last heard, was that all the analogue telemetry channels, 0 to 59 are zero, ie they have failed. The status channels 60 to 67 were still working. The spacecraft computer and active attitude control system have switched OFF, ie. the satellite' attitude is controlled only by the passive gravity boom gradient, and the satellite is free to spin at any speed. When telemetry was last received it showed that one of the solar arrays had failed, and there was a large unexplained current drain on the main 14 volt bus. After 22 years in orbit the battery has undergone around 100,000 partial charge/discharge cycles, and observations suggest that it cannot power the satellite during eclipses, or sometimes during periods of poor solar attitude.

The watchdog timer now operates on a 20 day cycle. The ON/OFF times have tended to be very consistent. The average of many observations show this to be 20.7 days, ie. 10.3 days ON followed by 10.4 days OFF. However, poor solar attitude may result may result in a low 14 volt line supply, which may cause the beacon to switch OFF prematurely, and reset the watchdog timer cycle. When this occurs, the beacon is OFF for 20.7 days.

The Beacon frequencies are -

VHF 145.826 MHz. AFSK FM ASCII Telemetry

UHF 435.025 MHz. OFF

S-band 2401.5 MHz. OFF

Listeners to OSCAR-11 may be interested in visiting my website. If you need to know what OSCAR-11 should sound like, there is a short audio clip for you to hear. The website contains an archive of news & telemetry data. It also contains details about using a soundcard or hardware demodulators for data capture. There is software for capturing data, and decoding ASCII telemetry. The URL is www.users.zetnet.co.uk/clivew/

[ANS thanks Clive, G3CWV, for the above information]

/EX

SB SAT @ AMSAT $ANS-309.03

AMSAT Donation Opportunity for Federal Employees

AMSAT News Service Bulletin 309.03
From AMSAT HQ SILVER SPRING, MD.
November 5, 2006
To All RADIO AMATEURS
BID: $ANS-309.03

Again this year AMSAT is a member of the Combined Federal Campaign (CFC). The mission of the CFC is to promote and support philanthropy through a program that is employee focused, cost-efficient, and effective in providing all federal employees the opportunity to improve the quality of life for all. As the world's largest and most successful annual workplace giving campaign, each year, more than 300 CFC campaigns throughout the country and internationally help to raise millions of dollars for eligible non-profit organizations.

Gunther Meisse, AMSAT treasurer has announced that any Federal employee can make a contribution to your Radio Amateur Satellite Corporation when they complete their pledge for 2006.

AMSAT is listed as Agency Number CFC 2944.

Your contribution directly supports AMSAT's educational outreach and satellite construction projects including work on AMSAT-Eagle. Pledges may be made by Federal civilian, postal and military donors during the campaign season.

The campaign runs from September 1st to December 15th, 2006.

To learn more about CFC visit the CFC website at:
http://www.opm.gov/cfc/

The 2005 Annual Report, Audit and tax filings are now posted on the AMSAT website at:
http://www.amsat.org/amsat-new/AboutAmsat/documents/finance.php

[ANS thanks Gunther W8GSM, AMSAT Treasurer for the above information]

/EX

SB SAT @ AMSAT $ANS-309.04
SK - Reihard Richter, DJ1KM

AMSAT News Service Bulletin 309.04
From AMSAT HQ SILVER SPRING, MD.
November 5, 2006
To All RADIO AMATEURS
BID: $ANS-309.04

AMSAT has received the sad news that Reinhard Richter, DJ1KM passed away on October 27, 2006. Reinhard was very active on satellites, worked on the AMSAT-DL website, and had managed the AO-40 schedule. His family can be reached via: Inge Richter and family, Lohfeldweg 40, 30459 Hannover, Germany.

[ANS thanks Inge Richter for the above information]

/EX

SB SAT @ AMSAT $ANS-309.05
Satellite DX Opportunities

AMSAT News Service Bulletin 309.05

From AMSAT HQ SILVER SPRING, MD.
November 5, 2006
To All RADIO AMATEURS
BID: $ANS-309.05

LA/W5ACM will be active on board a cruise ship in the Caribbean Sea starting on October 30, 2006. Ports of call include Jamaica, Grand Cayman and Cozumel. NO operation will be attemped from land, but many grids will be made available while at sea.

Target satellites include SO-50 and AO-51. Due to the difficulty of SSB up/FM down ops via AO-51, better results are expected via SO-50. We will give it our best shot! QSL to Andy's W5ACM home call.

Other satellite ops on this cruise include WB5RMA, WA5TWT, WA5WOD and WD5BDX.

Bob, K0NR will be active as PJ4/K0NR from Bonaire (IOTA SA-006) from Oct 28 to Nov 9th, SSB and PSK31 on 30M through 6M. Also active on FM OSCAR satellites (Grid FK52). QSL to K0NR home call.

Nader has ended his ST2NH operation from Sudan and returned home to Saudi Arabia where he plans to be active again from El Rijadh as HZ1NH on the satellites. During his three weeks in Sudan he reported working 23 countries and made 105 QSOs with different stations mostly in Europe using AO-7, FO-29, AO-51 and AO-52.

[ANS thanks Andy, W5ACM; Bob, K0NR, and Domenico, I8CVS for the above information]

/EX

SB SAT @ AMSAT $ANS-309.06
National Science Foundation Plans Webcast of Mercury Transit

AMSAT News Service Bulletin 309.06
>From AMSAT HQ SILVER SPRING, MD.
November 5, 2006
To All RADIO AMATEURS
BID: $ANS-309.06

The National Science Foundation's Kitt Peak National Observatory and the Exploratorium are joining forces to present a live view of an unusual celestial event: the transit of planet Mercury across the face of the Sun, as seen from Earth.

This five-hour transit occurs on Wednesday, November 8, 2006, beginning at 19:12 UTC and ending at 00:10 UTC.

The coverage from Kitt Peak, broadcast on the Web by a mobile multimedia team from the Exploratorium, will include a live image of the transit as seen through a white-light filter on a Meade 16-inch telescope operated by the national observatory for public outreach, plus live voiceover commentary at the top of every hour and interviews with astronomers on Kitt Peak.

For more information and to watch the event live, go to:
http://www.exploratorium.edu/transit

[ANS thanks the National Science Foundation for the above information]

SB SAT @ AMSAT $ANS-309.07
ARISS Status

AMSAT News Service Bulletin 309.07
  From AMSAT HQ SILVER SPRING, MD.
November 5, 2006
To All RADIO AMATEURS
BID: $ANS-309.07

1. Flanders Contact Cancelled

The Amateur Radio on the International Space Station (ARISS) contact which was scheduled with students attending the Flanders Science Festival on Friday, October 27 was cancelled due to issues associated with the docking of Progress 23P. The team is working to reschedule the contact with the students as soon as possible, although a specific date, time and location have not yet been determined.

2. Expedition 13 Crew Debrief Status

The Amateur Radio on the International Space Station U.S. team has compiled questions for the crew debrief with Jeff Williams, KD5TVQ. The debriefing session is tentatively scheduled for November 9 with a new time of 3:45 pm ET.

3. ARRL Article on ARISS International Team Meeting

The American Radio Relay League (ARRL) ran a web story covering the Amateur Radio on the International Space Station (ARISS) International Team Meeting held in San Francisco on October 8 - 10. See: http://www.arrl.org/news/stories/2006/10/25/2/?nc=1

[ANS thanks Carol, KB3LKI for the above information]

/EX

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

73, This week's ANS Editor,
Dee Interdonato, NB2F